

Remark

Applicants respectfully request reconsideration of this application as amended. Claims 4, 10-13 and 15-20 have been amended. No claims have been cancelled. Therefore, claims 1-20 are present for examination.

Claim Objections

The Examiner has objected to Claims 4 and 17. The requested periods have been added.

35 U.S.C. §112 Rejection

The Examiner has rejected claims 10-13 and 15-20 under 35 U.S.C. §112, second paragraph, as being indefinite. The rejection is not understood. Applicants have amended the claims in an effort to overcome the rejection. If there remains any issue with the format of the claim, Applicants respectfully request that the Examiner call the undersigned to discuss it.

35 U.S.C. §102 Rejection

Voth

The Examiner has rejected claims 1-7, 9-12, 14-17, 19 and 20 under 35 U.S.C. §102 (c) as being anticipated by Voth, U.S. Patent No. 6,199,169 ("Voth"). Voth is directed to correcting time clocks (212 in Figure 2) in networked computers (Figure 1) based on a master node time clock and measured propagation times.

The system clock is discussed in the present application in paragraph 2 as follows: "Current time synchronization protocols typically use the system clock of each computing resource for synchronization. The system clock is typically an independent component that resides on a system

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bus or a memory bus. The resolution of system clocks is determined by the interrupt cycle of the clock and is typically on the order of one to ten milliseconds. Accordingly, the accuracy of such a synchronization protocol is limited to the order of tens of milliseconds or at best milliseconds."

Claim 1 is directed to processor tick counter values from first and second processing engines. Processor tick counters are discussed briefly in paragraph 12 of the application as well as in other places. Generally, they may be characterized as follows: "The tick counter value is maintained in a register of a typical microprocessor and is updated at the speed of the microprocessor. The value can be read from the register with a standard, simple, assembly language instruction. As a result, the value provides very high accuracy commensurate with the processor speed and can be obtained very quickly. For an Intel Pentium® II processor that runs at 233MHz, synchronization can be obtained with an accuracy on the order of a few nanoseconds. For an Intel Pentium® 4 processor that runs at 1.5GHz, synchronization can be obtained with an accuracy on the order of half a nanosecond."

A further consequence of this difference between a system clock and a processor tick counter can be understood by a careful reading of Voth. In Voth, time offset are always used to correct or adjust system clocks. In the present application, timing offsets are applied to determine time stamps (Claim 6) or execution times (Claim 7).

There is absolutely no suggestion in Voth that processor tick counter values be employed, not that they be employed together with timing offsets. This difference results in a significantly different implementation and in significantly different accuracy. Accordingly, Claim 1 is believed to be allowable over the reference. The remaining claims are believed to be allowable on the same grounds.

35 U.S.C. §103 Rejection*Voth in view of Ozcetin*

The Examiner has rejected claims 8, 13 and 18 under 35 U.S.C. §103 (a) as being unpatentable over Voth in view of Ozcetin, U.S. Patent No. 6,611,922 ("Ozcetin"). Ozcetin contains no teachings that might overcome the limitations of Voth mentioned above. There is, for example, no suggestion of using processor tick counter values in Ozcetin.

Conclusion

Applicants respectfully submit that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicants respectfully request the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for an Extension of Time

Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension. Charge our Deposit Account.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
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Date: 11/12/04



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